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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,673	02/09/2001	Carl Schiffer	127.003	7995

7590

07/17/2003

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EXAMINER

SHIPSIDES, GEOFFREY P

ART UNIT

PAPER NUMBER

1732

8

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,673

Applicant(s)

SCHIFFER, CARL

Examiner

Geoffrey P. Shippides

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 3 and 4 need to use English labels. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: The instant specification is missing the continuity data. The continuity data needs to be added to the first line of the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 is an apparatus claim that recites "in particular claim 1" on line 2 of claim 9, which is unclear. It is unclear how claim 9 is further limited by the recitation "in particular claim 1". Claim 9 is further unclear as it is

unclear exactly what limitations of claim 1 (a method claim) are intended to be present in claim 9 (an apparatus claim). For the purposes of further examination, claim 9 has been interpreted by the examiner to only be limited to a device for producing a toothbrush comprising a handle part and a brush head including a plurality of bristles that comprises an injection molding tool having a plurality of identical mold cavities, characterized in that individual mold cavities are assigned to different plastifying units. Claims 10-14 are dependent upon claim 9. Appropriate corrective action is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,051,176 (Boucherie) in view of U.S. Patent No. 5,761,759 (Leversby et al.).

Boucherie teaches a process for producing a toothbrush (title) that comprises a handle part (Figure 5) and a brush head including (Figure 5) a plurality of tufts of bristles (Column 7, line 55). Boucherie teaches the injection of material into a plurality of mold cavities configured in a joint tool (Figures 2 and 4) for shaping structural parts with an identical geometry (Column 2, lines 59-65). Boucherie teaches that different components of the material are supplied via separate channels to individual mold

cavities (Figure 6; Column 2, lines 38-42). Boucherie uses separate channels to direct the different materials to different mold cavities (Figures 5 and 6).

With regard to claim 1, Boucherie does not specifically teach the injection of **plasticized** material into the mold cavities, but does teach the injection of synthetic components into the mold cavities. Leversby et al. teaches the production of a toothbrush (title) where plastic materials are injected to produce the toothbrush (Abstract, lines 3-4). Plastic material is intrinsically plasticized material when molten. It would have been obvious to one having ordinary skill in the art at the time of invention to modify the process of Boucherie to produce toothbrushes made out of the material of Leversby et al. in order to produce a toothbrush with the improved material properties of Leversby et al. by the more efficient process as taught by Boucherie.

With regard to claim 2, it is intrinsic in the process of Boucherie that the injected material of Boucherie or Leversby et al. would be kept in a liquid state in the channels in order to allow for the material to flow into the mold cavities and not foul up the equipment.

With regard to claim 3, Boucherie teaches that a single component is injected into a plurality of mold cavities (Column 2, lines 59-65).

With regard to claim 4, Boucherie teaches that a plurality of basic bodies are shaped in a joint tool (Figure 2) in a first molding step, and that the basic bodies are over-molded in a second molding step (Figures 5 and 6).

With regard to claim 7, Boucherie teaches that the first and second molding steps are carried out in the same tool (Column 2, lines 56-58).

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7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,051,176 (Boucherie) in view of U.S. Patent No. 5,761,759 (Leversby et al.) as applied to claims 1-4 and 7 above, and further in view of Japanese Patent No. JP 10006363 A (Kinoshita) and admitted prior art (Admission).

With regard to claim 5, Boucherie does not specifically teach the injection of different components around the first formed component (basic component) in the second injection-molding step.

Admission teaches that the toothbrush art are normally delivered in a ready-for-sale form (Page 1, lines 24-25 of the instant specification) and that toothbrushes need to be provided with different stiffness and/or color characteristics (Page 1, line 25 - Page 2, line 2 of the instant specification). Admission disclose the prior art problem of the cost and waste associated with the changing of the color used in a molding operation with a molding tool (Page 1, lines 8-23 of the instant specification) and also teaches the drawback of long time storage for each large batch of toothbrushes (Page 2, lines 4-15 of the instant specification).

Kinoshita, however, teaches an injection-molding machine that reduces the wastefulness of a synthetic resin material at the time of replacement (Abstract, lines 1-4). Kinoshita teaches a process where different colors are mixed into different channels downstream of a split in the material flow (Figure 1). Kinoshita teaches identically shaped molding cavities (Figure 1) to produce molded products of different color (Solution, line 19-21) in a single mold tool (Figure 1).

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It would have been obvious to one having ordinary skill in the art at the time of invention to use the process of Kinoshita to solve the problem as taught by Admission in order to solve the prior art problem of the high cost of cleaning out a machine between the production of articles of different color and the problem of having to store large numbers of articles in the production of toothbrushes. It would have been further obvious to one having ordinary skill in the art at the time of invention to overmold the different first molded parts of Boucherie with different colored second molded portions in order to produce plurality of different types of toothbrushes using a single mold so that a large amount of product would not have to be stored prior to sale of the toothbrush.

With regard to claim 6, It would have been also obvious to one having ordinary skill in the art at the time of invention to use the method of Kinoshita to mold different types of material in the forming of the first molded part as taught by Boucherie in order to produce toothbrushes with a different base color.

8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission) in view of Japanese Patent No. JP 10006363 A (Kinoshita).

Admission teaches that the process of producing multiple identically shaped toothbrushes by filling the mold cavities with plastified material is known in the art (Page 1, lines 8-10). Admission teaches that the toothbrushes are known to include a handle part, a brush head, and tufts of bristles in the brush head (Page 1, lines 10-14).

With regard to claim 1, Admission does not specifically teach the injection of different components of plastified material into different cavities.

Admission does, however, teaches that the toothbrush art are normally delivered in a ready-for-sale form (Page 1, lines 24-25 of the instant specification) and that toothbrushes need to be provided with different stiffness and/or color characteristics (Page 1, line 25 - Page 2, line 2 of the instant specification). Admission disclose the prior art problem of the cost and waste associated with the changing of the color used in a molding operation with a molding tool (Page 1, lines 8-23 of the instant specification) and also teaches the drawback of long time storage for each large batch of toothbrushes (Page 2, lines 4-15 of the instant specification).

Kinoshita, however, teaches an injection-molding machine that reduces the wastefulness of a synthetic resin material at the time of replacement (Abstract, lines 1-4). Kinoshita teaches a process where different colors are mixed into different channels downstream of a split in the material flow (Figure 1). Kinoshita teaches identically shaped molding cavities (Figure 1) to produce molded products of different color (Solution, line 19-21) in a single mold tool (Figure 1).

It would have been obvious to one having ordinary skill in the art at the time of invention to use the process of injecting differently colored material into different identical mold cavities as taught by Kinoshita to solve the problem as taught by Admission in order to solve the prior art problem of the high cost of cleaning out a machine between the production of articles of different color and the problem of having to store large numbers of articles in the production of toothbrushes.

Admission also does not specifically teach the use of a joint tool. Kinoshita teaches the use of a joint tool (Figure 1). It would have been obvious to one having

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ordinary skill in the art at the time of invention to use the basic molding tool (with toothbrush shaped cavities) in the production of the toothbrushes as taught by Admission but with differently colored toothbrushes molded in a single molding operation.

With regard to claim 2, it is intrinsic in the process of Admission and of Kinoshita that the plastified material is kept in a liquid state while in the channels leading to each cavity in order to allow the material to flow to the cavity and prevent fouling of the mold.

With regard to claim 3, Kinoshita teaches a single color material being injected into multiple cavities (Figure 1). It would have been obvious to one having ordinary skill in the art at the time of invention to inject a single component into multiple cavities in the production of toothbrushes in order to allow for multiple production of a single type of toothbrush in a single molding operation.

9. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission) in view of Japanese Patent No. JP 10006363 A (Kinoshita) as applied to claims 1-3 above, and further in view of U.S. Patent No. 6,051,176 (Boucherie).

With regard to claims 4-6, Admission does not specifically teach the process of overmolding a first formed part with a second material. Boucherie teaches a process for producing a toothbrush (title). Boucherie teaches the injection of material into a plurality of mold cavities configured in a joint tool (Figures 2 and 4) for shaping structural parts with an identical geometry (Column 2, lines 59-65). Boucherie teaches that different components of the material are supplied via separate channels to individual mold

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cavities (Figure 6; Column 2, lines 38-42). Boucherie uses separate channels to direct the different materials to different mold cavities (Figures 5 and 6). Boucherie teaches a plurality of basic bodies that are shaped in a joint tool (Figure 2) in a first molding step, and that the basic bodies are over-molded in a second molding step (Figures 5 and 6). It would have been obvious to one having ordinary skill in the art at the time of invention to produce toothbrushes with the multiple layers as taught by Boucherie in the process of producing toothbrushes as taught by Admission with different toothbrushes of the same dimensions but with differently colored material being injected into different cavities of the same shape as taught by Kinoshita in order to produce a variety of two-tone toothbrushes in a single molding operation.

It would have been further obvious to one having ordinary skill in the art at the time of invention to have both the outer layer and the first molded parts of Boucherie be molded out of various materials in a single operation (as taught by Kinoshita) in order to produce various two-tone types of toothbrushes in a single molding operation so that toothbrushes can be produced and immediately be distributed for sale.

With regard to claim 7, Boucherie teaches that the first and second molding steps are carried out in the same tool (Column 2, lines 56-58).

With regard to claim 8, Admission teaches that the tufts of bristles can be connected by over-molding of them in the injection-molding tool (Page 1, lines 12-13 of the instant specification). Boucherie also teaches that the bristles can be present in the mould (Column 7, lines 55-56). It would have been obvious to one having ordinary skill in the art at the time of invention to overmold the bristles in the process of producing

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toothbrushes as taught by Admission out of two materials as taught by Boucherie during either the first molding step or the second molding step. It would have also been obvious to one having ordinary skill in the art at the time of invention to inject some of the second material over a portion of the tufts or a portion of the first molded part holding the tufts in order to form a decorative toothbrush.

1. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,051,176 (Boucherie) in view of admitted prior art (Admission).

Boucherie teaches a mold for producing a toothbrush (title) that comprises a handle part (Figure 5) and a brush head including (Figure 5) a plurality of tufts of bristles (Column 7, line 55). Boucherie teaches an injection-molding tool that includes a plurality of identical mold cavities (Figures 2 and 4; Column 2, lines 59-65). Boucherie teaches that individual mold cavities are assigned to different material supply units (Figures 2 and 5).

With regard to claim 9, Boucherie does not teach that the material supply units are plastifying units. Admission teaches that toothbrush mold cavities are filled with plastified material (Page 1, lines 9-10 of the instant specification). It would have been obvious to one having ordinary skill in the art at the time of invention to use plastifying units as the material supply units in order to produce toothbrushes as taught by Boucherie out of plastified material as taught by Admission.

With regard to claim 10, Boucherie teaches a plurality of first mold cavities (Figure 2) of identical geometry (Column 2, lines 59-65) and a corresponding number of

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second identical mold cavities (Figure 2; Column 2, lines 59-65) that are made larger than the first mold cavity (Figure 4).

2. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,051,176 (Boucherie) in view of admitted prior art (Admission) as applied to claims 9 and 10 above, and further in view of Japanese Patent No. JP 10006363 A (Kinoshita).

With regard to claim 11, Boucherie does not specifically teach the injection of different components around the first formed component (basic component) in the second injection-molding step.

Admission teaches that the toothbrush art are normally delivered in a ready-for-sale form (Page 1, lines 24-25 of the instant specification) and that toothbrushes need to be provided with different stiffness and/or color characteristics (Page 1, line 25 - Page 2, line 2 of the instant specification). Admission disclose the prior art problem of the cost and waste associated with the changing of the color used in a molding operation with a molding tool (Page 1, lines 8-23 of the instant specification) and also teaches the drawback of long time storage for each large batch of toothbrushes (Page 2, lines 4-15 of the instant specification).

Kinoshita, however, teaches an injection-molding machine that reduces the wastefulness of a synthetic resin material at the time of replacement (Abstract, lines 1-4). Kinoshita teaches a process where different colors are mixed into different channels downstream of a split in the material flow (Figure 1). Kinoshita teaches identically

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shaped molding cavities (Figure 1) to produce molded products of different color (Solution, line 19-21) in a single mold tool (Figure 1).

It would have been obvious to one having ordinary skill in the art at the time of invention to use the process of Kinoshita to solve the problem as taught by Admission in order to solve the prior art problem of the high cost of cleaning out a machine between the production of articles of different color and the problem of having to store large numbers of articles in the production of toothbrushes. It would have been further obvious to one having ordinary skill in the art at the time of invention to provide multiple streams of differently colored material to the second mold cavities in order to overmold the different first molded parts of Boucherie with different colored second molded portions in order to produce plurality of different types of toothbrushes using a single mold so that a large amount of product would not have to be stored prior to sale of the toothbrush.

3. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,051,176 (Boucherie) in view of admitted prior art (Admission) as applied to claims 9 and 10 above, and further in view of U.S. Patent No. 5,922,363 (Beck et al.).

With regard to claims 12 and 13, Boucherie does not teach a shut off device that can be brought into flow communication with individual or several cavities. Beck et al., however teaches such a shut off device that can be used to change a mold cavity to being in communication with various plastifying units (Figure 1). It is clear from the teachings of the Admission that it is known to have toothbrushes molded from different

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colors. It would have been obvious to one having ordinary skill in the art at the time of invention to use the shut off device as taught by Beck et al. with the molding tool as taught by Boucherie and to attach the shut off device of Beck et al. to various plastifying units in order to allow for a quick change of the type of material being injecting into the different mold cavities and to quickly change the number of each color of toothbrush being produced in each molding cycle.

With regard to claim 14, Boucherie teaches mold cavities of identical design and Beck et al. teaches the use of mold cavities of identical design. It would have been obvious to one having ordinary skill in the art at the time of invention to use the shut off device of Beck et al. with molding cavities of identical design of Boucherie in order to quickly change the type (or color) of molding material being used to produce each layer of the toothbrush as taught by Boucherie.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 5,609,890 (Boucherie) and Japanese Patent No. JP 01038217 A (Takayama) are cited as art of interest to show the current state of the art at the time of invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey P. Shipsides whose telephone number is 703-306-0311. The examiner can normally be reached on Monday - Friday 9 AM till 5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

GPS

Geoffrey P. Shipsides/gps
June 13, 2003



MARK EASHOO, PH.D
PRIMARY EXAMINER

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16/June/03